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FEASIBILITY STUDY OF A DIAPER SERVICE
IN GREAT FALLS, MONTANA

By

Robert L. Schani

B.S., University of Colorado, 1969

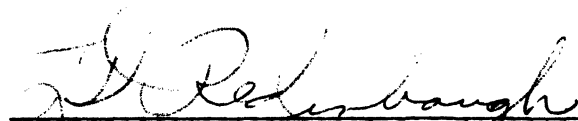
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for the degree of

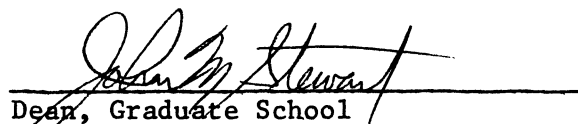
Master of Business Administration


UNIVERSITY OF MONTANA

1977

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Dr. Larry Redinbaugh, committee advisor, offered invaluable assistance in the preparation and refinement of this paper. I wish to also extend my appreciation to the other committee members, Dr. B. J. Bowlen and Dr. W. D. Patzig, for their contributions,

This paper could never have been completed without the guidance and excellent secretarial abilities of my typist, Mrs. Grace Molen. I relied extensively on her much needed advice and support in completing this paper as well as the entire AFIT program.

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The management staffs of both Universal and Rock-A-Dry Diaper Services allowed me to study and examine their business operations. Their cooperation was most helpful.

The patience and understanding of my wife, Paula, must not go unmentioned. Throughout the many hours and months associated with this paper's completion, she always assured me that the day would come when I could write these acknowledgments.

CHAPTER I

INTRODUCTION

Purpose and Need for the Study

The purpose of this study was to conduct extensive empirical research associated with the establishment of a diaper service in Great Falls. Conclusions are based on the feasibility of the venture.

The absence of any diaper service within the City of Great Falls underscores the need for a study of this type. Research was intended to determine if Great Falls would be a suitable location for a diaper service. An attempt was made to ascertain why a diaper service has not been previously provided for customers. The various social, economic, and other related factors were studied for their influence on the feasibility of the diaper service.

Only two basic assumptions were involved in the formulation of this paper. First, that birth rates and trends in Great Falls will continue at present levels or perhaps increase slightly. Second, that the desire for this service will constitute more of a restraint than consumer purchasing power. Assuming a given base of diaper-age infants, either cloth or disposable diapers will continue to be used. Consumer preference in this area was regarded as a pivotal aspect of this study.

Limitations of Research and Definition
of the Approach

The scope of this study was limited to the City of Great Falls, Malmstrom Air Force Base, and rural routes. However, two case studies of existing diaper services are included as a separate chapter of this paper. By necessity, each was conducted outside the Great Falls area. Diaper services located in Denver and Boulder, Colorado were selected as no diaper service is currently operating within the entire State of Montana.

In general, the approach taken was empirical in nature. Case studies were conducted early in the study and findings are used in conjunction with secondary research efforts. The direction provided by the case studies and the adaptation of appropriate findings to actual business operations proved to be a valuable asset in aiding empirical research.

This paper is composed of five major areas: (1) Case Studies, (2) Market Potential, (3) Promotional Considerations, (4) Financial Aspects, and (5) Conclusions and Recommendations.

Noting that a diaper service does not presently exist, a crucial and determining factor of this study was the market analysis. Both the current diaper service and disposable diaper markets are discussed and evaluated as a general market overview. Specific market research was developed through a sample survey directed toward recent and expectant mothers. Additionally, hospital obstetric nurses were interviewed for their reaction to the diaper service. The purpose of the sample survey and interviews was two-fold. It was partially intended to

examine the recent trend toward disposable diaper usage. But more importantly to establish the demand element and attitudes about the diaper service. On the surface, it does not appear to be a question of purchasing power influencing the market potential. However, there may be some subtle, less obvious reasons for either public or institutional resistance to a diaper service. Hopefully, this market study will disclose any conditions and variables preventing establishment of the diaper service. On the other hand, a highly enthusiastic public reaction could mean that local businessmen may have overlooked a potentially profitable venture.

The promotional section focuses attention on identifying the service and initiating operations. The majority of promotional effort must establish both public awareness and follow-up information. Any form of media advertising has inherent cost-benefit relationships. Therefore, media were compared from this viewpoint. Other techniques which may prove desirable for exposure and/or financial reasons were also researched.

The financial portion of the study deals directly with internal operations relating to the following: (1) start up costs; (2) business form; (3) location; (4) tax considerations; and (5) sources and procedures for outside financing. A breakeven analysis and the return on investment calculation were computed. A projected income statement indicating expected profits or losses was calculated. Expected losses from normal usage and customer "pilferage" were also projected.

Primary data were generated from the case studies, sample survey, financial analysis, and personal interviews. All other data were secondary in nature.

CHAPTER II

CASE STUDIES

Case Study #1 - Universal Diaper Service,

Boulder, Colorado: 12 April 1976

Background

The Universal Diaper Service is a family owned partnership initially established as a proprietorship in 1971 by John Chierotti. In addition, his wife, brother Michael, and a friend are currently employed in the business. The diaper service was started to provide supplemental income for John's college education. He never intended to continue the business on a fully operational scale. Therefore, he utilized only the basement and home laundering facilities to start a diaper service. It is interesting to note that a diaper service did not exist in Boulder at that time and that no competitor has emerged in Boulder to date. However, Rock-A-Dry diaper service, based in Denver (Case Study #2), does service the Boulder area, and has not adversely affected Universal's market.

The part-time business required considerably more attention than John had originally anticipated. He quickly discovered that the demand exceeded original projections, and that he was confronted with a growing clientele. Striving to provide the type and quality of service required to retain present customers and attract new ones, John became increasingly more involved in the business. At that point,

he began to realize the future potential of the diaper service. He was then confronted with a crucial decision: to continue his college education which had received less and less attention, or to pursue a diaper service venture. His college ambitions were scrapped and he decided to continue the venture full time.

The business developed to the point where expanded facilities were desperately needed. A laundromat was rented and the service relocated. The new facility did afford increased operating capacity, however, rental costs sharply reduced profits. At the end of the third year, John solicited the aid of his brother and the present partnership was formed. Once again the business was relocated to an industrial park. A vacant building was rented and commercial laundering facilities were purchased. The service has remained in this location.

Market Findings

At the time the case study was accomplished, the business served approximately 180 customers per month, of which 130 were in the Boulder county area, and the remaining 50 in the Denver metropolitan area. Interestingly, almost 28 percent of the customers are from the Denver area. The cost to the Boulder customer is \$4.05 and \$4.50 per week to the Denver customer based on an initial delivery of 80 diapers per week. The higher price in Denver reflects an additional delivery cost incurred by Universal Diaper Service. The customer is free to adjust the quantity of diapers delivered at any time. However, the minimum must remain at 40 diapers per week. This increase or decrease is made in increments of ten diapers and a corresponding ten cent adjustment for this amount is made on the weekly statement. Each customer is assigned

an account number and a record is maintained on weekly diaper usage. The records must be both accurate and current to ensure proper delivery processing.

Average customer life is from eight to twelve months, although several continue the service until the infant is toilet trained. This latter customer could be expected to use the service from one to two years. A typical customer could not be identified in either the Boulder or Denver area and annual income was not a significant factor in determining either customer type or length of potential service. However, the management did identify convenience as the single most important benefit sought by most customers.

Universal has not encountered significant problems relating to the collection of payments. Only four or five uncollectable accounts developed in 1975. A few bad checks have been received but are the exception rather than the rule. When a customer does become delinquent, a friendly reminder, as shown in Figure 1, is presented with the next delivery. The management realizes that the customer may have honestly overlooked a payment and that the reminder usually resolves the situation. If possible, payments are collected in conjunction with a delivery. This method reduces the need to mail statements and saves the customer postage fees. In all other cases, a monthly statement is sent as shown in Figure 2.

A money-back guarantee is maintained indicating the management's strong desire for customer satisfaction. When a customer does express dissatisfaction with the service, definite reasons are sought to preclude future reoccurrences. The cost of the guarantee was \$100.43 in customer refunds during 1975. This is the equivalent of about 25 weeks,



Fig. 1.--Universal Diaper Service reminder for past due accounts.

YOUR ACCOUNT WITH

"it's the real thing"BOULDER, COLORADO 80303
449-4263

•

• Comments

KINDLY USE THIS ENVELOPE FOR YOUR REMITTANCE

ACCOUNT NO. _____	
FOR LAUNDRY SERVICES (_____ DIAPERS)	
FROM _____ TO _____	\$ _____
PREVIOUS DEBIT BALANCE	\$ _____
OTHER CHARGES _____	\$ _____
_____	\$ _____
TOTAL CHARGES	\$ _____
LESS CREDITS _____	\$ _____
_____	\$ _____
BALANCE DUE - - - - -	\$ _____
ALL BILLS PAYABLE UPON RECEIPT OF STATEMENT	

Fig. 2.--Universal Diaper Service customer account statement.

or six months, of service to one Boulder customer. Further analysis revealed that customer pilferage is minimal and does not receive attention by the management until a customer retains ten or more diapers for a period of time. She is then charged 50 cents for each diaper not returned. This charge approximates the cost to the management and does not unrealistically penalize the customer. During 1975, the business wrote off \$433 in lost or pilfered diapers. This figure represents only one percent of the gross and two percent of the net income. Thus, 866 diapers, or 72 dozen, were lost during the year. Present practice required a daily physical count of all returned diapers for each customer. This count should reveal exactly how many diapers the customer has not returned. The method is time consuming but necessary for control purposes. The customer is then delivered only the amount of diapers that were previously returned.

Inventory control appears to be adequate but at least a portion of the losses might be related to this physical-count system. In practice, a situation may have developed that resulted in delivering diapers without considering the number being returned.

Universal does not provide service to institutions; e.g., nursing homes, day-care centers, or hospitals. Service is limited to private households and will continue until the management is confident that expanded service can be effectively provided. It seems that Universal's management is content with the present market share; however, present laundering capacity may be the actual limiting constraint on expansion.

Gift certificates similar to the one illustrated in Figure 3, are available and generate significant business. No other special

Congratulations

This Certificate presented to _____

is good for _____ weeks Diaper Service from the

ROCK-A-DRY & SMALL FRY DIAPER SERVICE

With the compliments of _____

Service includes: Rental of _____ diapers per week. Container furnished.

Please call 825-5363 when you wish to start this service.

© 1968 661 LITHO IN U. S. A.

Fig. 3.--Rock-A-Dry Diaper Service gift certificate.

incentives such as free purchase offers are extended to potential customers.

Operations

The only type of advertising employed by Universal is a classified advertisement in the Yellow Pages of the telephone directory. The management is convinced that this method offers adequate exposure at a reasonable cost. The monthly cost is approximately \$30, or \$360 annually.

The management is extremely concerned about the antiseptic quality of the firm's diaper processing. In an effort to accomplish this, an exacting formula consisting of several pre-rinse, wash, and rinse cycles was developed in conjunction with equipment specifications. Bleaching time varies from 15 to 30 minutes depending on the soiled condition of diapers. A warm water, dry bleach solution is used as hot water and liquid bleach tend to set stains. The final rinse incorporates a fabric softener. Random, periodic checks are conducted to ensure the maintenance of proper Ph (5.5 ± 1.5) essential to the prevention of diaper rash.

Certain diapers acquire stains that defy removal with one complete wash cycle. The management absolutely refuses to deliver any stained diapers. After a second wash cycle, the diapers usually meet management's standards. This certainly is a commendable policy of standards; however, a realistic assessment of the problem of stains is also necessary. After considerable usage, a diaper may develop some stubborn stains.

Deliveries are made to the Denver-Boulder area **five days a week**. The Boulder customers are serviced by two routes per day on Mondays and Thursdays. The remaining weekdays are reserved for the Denver metropolitan area. Normally, two persons deliver and two persons launder. Every attempt is made to deliver at approximately the same time on the same day of the week. This practice usually allows the customer to be home to accept delivery. The management hesitates to deliver if the customer is not home for the obvious reason of theft. In many instances, the diapers can be left with a neighbor. If a second unsuccessful delivery attempt is made, a note will be left requesting the customer to make appropriate delivery arrangements. It is evident that the management expends considerable effort attempting to satisfy customer delivery needs.

Financial Findings

Universal Diaper Service suffered from net losses each of its first three years, but generated net profits in the following two years according to the managers of the business. Unfortunately, no formal financial records or statements have been prepared since the formation of Universal. As a result, a comprehensive analysis of Universal's financial status was not possible. The management did provide some pertinent information which enabled a limited reconstruction of a profit and loss statement.

The largest single item comprising inventory is the diaper supply. Curity brand pre-folded diapers were purchased at a cost of \$6 per dozen. These diapers have a current retail selling price of \$8 per dozen. All diaper purchases are from the Kendall Corporation

located in Bethune, North Carolina. Credit purchase privileges were only recently extended to Universal when its credit worthiness became recognized by Kendall. Only one diaper size is purchased and it may be folded, as shown in Figure 4, to fit both newborn and older babies. The initial delivery to a customer includes a copy of these instructions. Approximately 15,000 diapers are maintained in inventory and this number is sufficient to supply each of the 180 customers with 80 diapers each. In 1975, 9,144 diapers, or 762 dozen were purchased for \$4,572. Thus, 60 percent of the inventory for Universal was acquired in 1975. The average diaper life is one year and after that time they are sold as rags for 15 cents each. Substantial demand exists for these worn out diapers.

The management would prefer to double the inventory to ease the present laundering schedule. This added inventory will cost approximately \$7,500 and may be required to replace worn out diapers, or to expand the business.

The following profit and loss analysis was accomplished utilizing revenue and cost data supplied by the management. All figures pertain to 1975 and are rounded to the nearest dollar.

Gross Income:	\$37,206.00
---------------	-------------

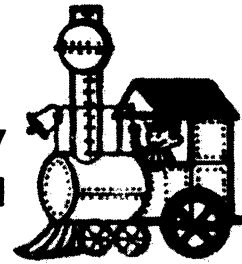
Computed on an average weekly use of 60
diapers per customer @ \$3.85/week
(Boulder customer) and @ \$4.30/week
(Denver customer).

Expenses:

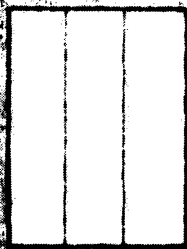
1. Lost or pilfered diapers	\$ 433.00
2. Refunds	100.00

KENNETH

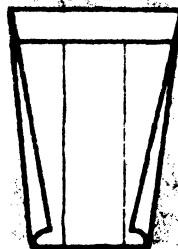
**CURITY SERVICE-FOLDS ARE ALREADY
PREFOLDED TO FIT YOUR BABY THROUGH
THE ENTIRE DIAPERING PERIOD.**



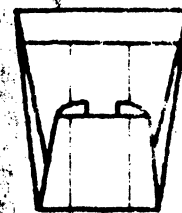
FOR NEW BABIES



1. Place inside, bagless
side facing baby.

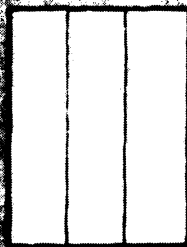


2. Turn sides in at angle.

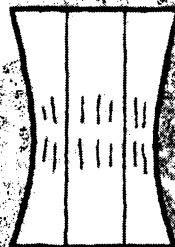


3. Turn up about $\frac{1}{3}$ of
length and pin back
flap to front.

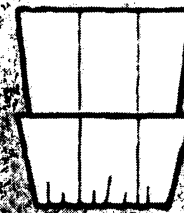
FOR OLDER BABIES



1. Place inside, bagless
side facing baby.



2. Turn sides in at angle
maximum absorbency.



3. Pin down back flap
to front.

ROCK-A-DRY BABY

DIAPER SERVICE

825-5363

AF 144

Fig. 4.--Diaper folding instructions.

3.	Plastic diaper pail containers	\$ 255.00
	102 @ \$2.50 each. Supplier: Associated Diaper Crib Co., Chicago, Illinois.	
4.	Plastic diaper pail liners	468.00
	Approximately 1,000/month for 180 customers @ \$39/1,000. Supplier: Parade Packaging Materials Co., Denver, Colorado.	
5.	Deodorizer tablets	108.00
	Tablet life = two months. 180 customers/1,080 tablets @ 10 cents per tablet. Supplier: Chemical Sales, Co., Denver Colorado.	
6.	760 dozen diapers	4,572.00
7.	Utilities	800.00
8.	Business and auto insurance	400.00
9.	Laundrying supplies	360.00
10.	Rent	3,000.00
11.	Gasoline and maintenance	1,800.00
12.	Advertising (Yellow Pages)	360.00
13.	Miscellaneous maintenance	215.00
	Total	<u>\$12,871.00</u>
	Net Income	\$24,335.00

Net income is distributed among the management and employees, but not in accordance with a predetermined schedule. Both the management and employees have established a communal living arrangement and the profits are utilized accordingly. Time only will tell if this living arrangement and profit sharing will be compatible with business operations.

Equipment and related costs owned by the management of Universal consists of the following:

1.	1961 Ford Econoline		\$1,000.00
2.	1965 Ford Econoline		1,400.00
3.	One 50 pound washer)	
) Combined cost of	1,000.00
4.	One 50 pound extractor) with additional	
) installation fee of	500.00
5.	One 50 pound dryer)	

All equipment was purchased used and is in good working order. The only limitation is capacity. Furthermore, the separate washer and extractor is not as efficient as a combined washer-extractor. But, it should also be noted that the combined washer-extractor is also more expensive while offering increased efficiency. This increased efficiency would offset the initial expense by allowing for expanded growth.

Case Study #2 - Rock-A-Dry Diaper Service,Denver, Colorado: 13 April 1976

Background

The Rock-A-Dry Diaper Service was formed as a corporation in 1973 by Ken Ferguson and Bob Williams. Prior to that time, four separate diaper services operated in the Denver metropolitan Area. The former management of Rock-A-Dry purchased all of these diaper services and consolidated them into one single diaper service. Subsequently, Rock-A-Dry was purchased by the present management for \$81,000. Included in this purchase was all the necessary equipment, building, clientele, and a certain amount of good will. In sharp contrast to the Universal Diaper Service, Rock-A-Dry was an established business and the new management had the sufficient equity capital, financial backing, and previous experience to acquire and successfully operate this firm.

Market Findings

At the time the case study was accomplished, approximately 1320 customers in the Denver metropolitan and Boulder areas were being serviced. The management could not precisely determine what percentage of the potential market they serve because Colorado does not publically release birth data as Montana does. Estimating approximately 15,000 births per year, the management assessed their market share at about nine percent. However, the present plant capacity and layout appears to restrict the possible market share to a maximum of between ten and twelve percent.

Rock-A-Dry service charges are somewhat higher than those charged by Universal and are reflected in the cost comparison chart, Figure 5.

DIAPER SERVICE		DISPOSABLE DIAPERS		HOME LAUNDERING COSTS PER LOAD	
60 DIAPER SERVICE	\$ 4.35	PAMPERS NEWBORN (30)	\$ 1.97	PRE-SOAK (BORAX)-½ CUP	\$.24
70 DIAPER SERVICE	4.55	PAMPERS DAYTIME (30)	2.45	DETERGENT (IVORY)-1 CUP	.34
80 DIAPER SERVICE	4.75	PAMPERS TODDLER (12)	1.50	BLEACH (CLOROX)-½ CUP	.05
90 DIAPER SERVICE	5.05	PAMPERS OVERNIGHT (12)	1.30	SOFTENER-½ CUP	.12
		KIMBIES NEWBORN (30)	2.03	WATER (28 GALLONS)	.03
		KIMBIES DAYTIME (30)	2.50	HEAT FOR WATER	.08
		KIMBIES OVERNIGHT (12)	1.34	ELECTRICITY (WASHER)	.02
HIDDEN COSTS:	NONE	OTHER:		ELECTRICITY (DRYER)	.15
Additional diapers 3¢ each. Any quantities available.		OTHER:		DIAPERS (300 LOAD WRITE-OFF)	.28
AVERAGE WEEKLY COST: \$ 5.05 (90 DIAPERS) SURPRISED?		Don't forget cost of family car and gasoline. The effects on our ecology, with a new baby using up close to 400 diapers in a month!		DIAPER PAIL (300 LOAD WRITE-OFF)	.03
		AVERAGE WEEKLY COST: \$ 5.95 (90 DIAPERS) WHAT'S IT DOING TO YOUR FOOD BUDGET?		WASHER WEAR	.12
				DRYER WEAR	.08
				SEPTIC TANK (TOTAL COST)	.11
				WATER SOFTENER UNIT	.04
				TOTAL COST PER LOAD:	\$ 1.69
				Don't forget the value of your time, your labor, your health. An uncluttered house. The use of your car. But most important, no amount of home laundering gets diapering as sanitary and clean as we can professionally. You can't even buy the antiseptic we use.	
				AVERAGE WEEKLY COST: \$ 6.76 (90 DIAPERS, 4-LOADS) IS IT WORTH IT?	

**Compare these prices from your area:
For the cost of home laundering,
we deliver soft cotton diapers
to your door!**

**Be convinced.
Call now.**

We save you more than drudgery.

And... Home Laundry can't get diapers clean enough.

**Rock-A-Dry Baby Service
and
Small Fry Diaper Service**
Serving Denver & Suburbs
Boulder
2851 Larimer Street
Denver, Co. 80205
FOR INFORMATION AND RESERVATIONS
Telephone: 825-5363

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Fig. 5.--Rock-A-Dry Diaper Service Cost Comparison Chart.

All customers receive an initial delivery of 90 diapers that can be adjusted at the customer's discretion. Average customer diaper usage is 60 diapers weekly for an eight month period. Each customer is assigned a color-coded tag designating the delivery route and amount to be delivered. An accurate record of customer usage must be maintained on a weekly basis. Although higher income groups may prefer to use the diaper service, the owners considered any income or ethnic group a potential customer. Billing is accomplished with the form illustrated in Figure 6.

No significant problems associated with customer billing and payment, pilferage, or theft were encountered. It is company policy to make good-faith deliveries when customers are not home. Only a small percentage of these deliveries result in theft or loss. The management did not provide a dollar amount of thefts and losses.

A physical count of returned diapers is utilized to determine the amount of the next delivery. Inventory accountability is strongly emphasized by the management and necessitated by sheer volume.

The market has been considerably expanded beyond the private household sector. Three separate institutional facilities are serviced: Valley View Hospital and Sunny Acres Nursing Home, located in the Denver area, and a Boulder day-care center for retarded children. Receiving blankets are used as adult diapers by the nursing home and require special processing. The day-care center uses 3,700 diapers weekly and is a valuable customer. As stated in Case Study #1, Universal does not service institutions. It appears advantageous for Universal's management to investigate this potential customer. This single institutional customer would be the equivalent of 50 private households'

YOUR ACCOUNT WITH
ROCK-A-DRY & SMALL FRY DIAPER SERVICE, INC.
"it's tops for bottoms"
 PHONE 825-5363
 DENVER, COLORADO 80217

KINDLY USE THIS ENVELOPE FOR YOUR REMITTANCE

ACCOUNT NO.	
FOR LAUNDRY SERVICES (INCLUDING RENTAL OF _____ DIAPERS)	
FROM _____ TO _____	\$ _____
PREVIOUS DEBIT BALANCE	\$ _____
OTHER CHARGES _____	\$ _____
_____	\$ _____
TOTAL CHARGES	\$ _____
LESS CREDITS _____	\$ _____
_____	\$ _____
BALANCE DUE	\$ _____
ALL BILLS PAYABLE UPON RECEIPT OF STATEMENT	
THIS BILL MAY NOT REFLECT A RECENT PAYMENT	

Fig. 6.--Rock-A-Dry Diaper Service customer account statement.

diaper usage for one week; assuming a customer usage rate of six dozen per week. The owners of Universal could realize both delivery and laundering time savings if the day-care center were serviced. More attention could then be given to attracting new household customers.

Promotional Activities

The management has adopted an extremely aggressive advertising program to attract an uncertain target market. Without public notice; e.g., the local newspaper, they have developed a method for determining a potential customer base. At selected baby apparel and furnishing shops, a contest has been instituted offering one month's free diaper service. In cooperation with these businesses, expectant mothers are encouraged to enter this contest. Periodically, the entries, presented in Figure 7, are collected to provide a base from which future customers can be solicited. Each entrant is then sent a promotional package consisting of the following: An introductory letter, (Figure 8) with one or any combination of the illustrated pamphlets, shown in Figure 9. Usually, a copy of the cost comparison chart, as shown in Figure 5, is included to provide the customer with visual cost comparisons and diaper service advantages. The management stated that this type of program is effective although time consuming. In addition, they could not provide a comparison of the number of solicitations with eventual customer acquisition.

In general, this program appeared to be accomplishing the owners' objective. But there may be a question concerning the cost-benefit relationship. Do the time and expense incurred sufficiently attract enough customers to justify continued use of this method? It certainly

...Wishing Well Contest!...
EXPECTANT MOTHERS ONLY

Name _____

Address _____ Phone _____

City _____ State _____ Zip _____

Month Expecting: _____

I Am Expecting My First Baby: Yes ☐ No ☐

Duplicate Entries will be Disqualified.
 Fill in card and drop in contest box.

 **FREE** No. 1
COUPON

This Coupon presented to _____

With the purchase of 4 weeks of Diaper Service. Present this Coupon to obtain
 the 5th week of **DIAPER SERVICE FREE!**

With the Compliments of:

ROCK-A-DRY & SMALL FRY DIAPER SERVICE

Service includes Rental of **90** diapers. Container furnished.

PLEASE CALL: 825-5363 when you wish to start this service.....Limit 1 per family.

Check Your Choice—And Mail Today, To
ROCK-A-DRY & SMALL FRY
DIAPER SERVICE, Inc.
825-5363
"So Reasonable . . . Why Do Your Own?"

● **HOSPITAL - CLEAN**
 ● **LABORATORY TESTED**
 ● **SELF DEODORIZING**

Please Reserve the Service I Have Checked:

70 Weekly	<input type="checkbox"/>	\$4.55
80 Weekly	<input type="checkbox"/>	\$4.75
*90 Weekly	<input type="checkbox"/>	\$5.05
100 Weekly	<input type="checkbox"/>	\$5.35
160 Weekly (for twins)	<input type="checkbox"/>	\$7.00

Service Includes Beautiful Self - Deodorizing Hamper! *New babies average 90 Weekly
4 WEEKS MINIMUM SERVICE

For additional information about diaper service, call us.

NAME _____ PHONE _____

ADDRESS _____ DUE _____

We Service: ALL of Denver, Boulder, Longmont, Evergreen, Parker and Castle Rock.

...Diaper Service Makes a Perfect Gift...

Fig. 7.--Rock-A-Dry Diaper Service contest entry forms.

TELEPHONE:
825-5363



P. O. BOX 5453, T. A.
DENVER, COLO. 80217

WILL YOU TAKE 2 MINUTES TO SAVE THE BABY YOU'RE HAVING
PERHAPS WHOLE DAYS OF PAIN AND DISCOMFORT?

Dear Mother-to-be,

Sometimes I wonder: If people really knew about the "bane of babyhood," wouldn't they take the easy steps needed to avoid it?

I mean diaper rash. Can you imagine what it's like to be a tiny baby and to feel constant itch and pain hour after hour - when you wriggle, when Mother picks you up, when you eat - and not be able to do a thing about it?

Not much of a start in life, is it? Probably lots of "fussy babies" are just normal, happy babies with diaper-rash problems.

Will you take 2 minutes to glance through the booklet I'm enclosing and get the real story about diaper rash? See how nothing solves the problem like the ANTISEPTICALLY CLEAN diapers only a diaper service like ours can provide. This includes disposables, and they cost more!

See how our hot water is different from yours. Much hotter! How we put diapers through several pre-rinses . . . three suds baths . . . six more rinses . . . an antiseptic bath . . . a softening process . . . a partial drying . . . then a final fluff-drying at precisely the correct temperature.

See how we keep the whiteness in diapers 20% better than home laundering . . . and the big difference: how we remove soil almost 3 times better to get diapers ANTISEPTICALLY CLEAN.

Starting your baby on our diaper service may seem a small thing, but it can make a big difference to your baby. And think of the drudgery, time and precious energy you'll save! Just call us at 825-5363, or mail the reservation card I'm enclosing.

Yours very truly,

Nancy Pokorny
ROCK-A-DRY DIAPER SERVICE

P.S. Act now and get the Baby's Life Digest magazine FREE plus a week's diaper service FREE. See the blue coupon I'm enclosing.

Fig. 8.--Rock-A-Dry Diaper Service promotional letter.



Fig. 9.--Rock-A-Dry Diaper Service promotional pamphlets.

1

A diaper should protect

The plastic outer barrier found in most disposable diapers can actually contribute to diaper rash. It tends to inhibit air circulation, and as a result, the paper liner underneath remains wet. It often mats and disintegrates, leaving little between baby's skin and the plastic itself. On the other hand, soft, cotton diapers are more absorbent and keep more wetness away from baby's skin.

2

A diaper should be safe

Disposables usually contain little or no germ-fighting antiseptic agents. The heat and moisture created within often provides an ideal setting for bacteria with little to deter its growth. Diaper service diapers are treated with a special antiseptic that fights germs and keeps baby safer. Sample diapers are inspected regularly to assure quality and safety standards as required by the National Institute of Infant Services.

3

A diaper should be convenient

By using diaper service diapers, you're assured of regular pick-up and delivery when you need it. You get the right number of diapers each week, without having to run to the store in an emergency to carry home "boxes."

4

A diaper should be comfortable

There's nothing as comfortable as cotton next to the skin. Cotton diapers are soft, breathable and move when baby moves. They don't stick to skin and chafe like the plastic layer of disposable diapers. And they don't shred like the paper underliners often do. Cotton is comfortable, and a comfortable baby is a happy baby.

5

A diaper should be economical

With the added service and protection that a diaper service gives you, you still pay a lot less than you would for plastic and paper diapers. And, cotton diapers also serve many other baby uses like crib sheets, towels, bibs, burping cloths, etc.

and...

A diaper should not pollute

Unlike disposable diapers, which are flushed or burned, cotton diapers are "recycled." This keeps our water supply safer and cuts down on air pollution.



Fig. 9.--Continued.



Fig. 9.--Continued.

**No matter how many
washes, rinses, bleaches,
detergents, or
bacteriostats you use,
a professional diaper
service is the only
solution to getting
diapers really clean.**



The fact is, after the average home diaper laundering, as much as half the soap and detergent remains in the diaper. This makes the diaper harsh, causing chafing of baby's skin. And unless the diaper has been properly sterilized, the live bacteria present will also contribute to diaper rash...and maybe you never stopped to think about it...but if you do baby's diapers, you'll unnecessarily squander the electricity and natural fuels that run your washing machine and dryer...and that's energy you'll be needing to keep your home comfortable for all the family.

Only a professional diaper service can process diapers properly and thoroughly enough to give maximum protection against diaper rash. Only a professional diaper service can keep your soft, fluffy cotton diapers angel soft and fluffy. That's our business. And, while that's reason enough to use a diaper service, there's another important reason.

Think of your own health. With all the energy consuming demands of a baby, it's

important that you too stay well and rested. The more hours you spend washing diapers, the less time you'll have to care for baby's many wants and needs.

And if you've thought about disposable diapers, please forget it. They often contribute to diaper rash as much as home laundering. The plastic outer barrier tends to stick to baby's skin and pulls the skin as baby moves. Its chafing is often a source of irritation. The plastic barrier also may inhibit air circulation, so that the paper liner underneath stays wetter and disintegrates.

Because disposables have to be flushed or burned, they contribute to water and air pollution, and they can cost up to 40% more than cotton diaper service diapers. Really, you pay a lot more for a lot less.

A diaper should do more than pamper. For baby's sake and yours, insist on diaper service diapers.

Each week you get the exact number of clean, clean, clean diapers you require—delivered in a moisture-proof polyethylene bag.

Because they're too precious to "dispose" of, instead, you pop the used diapers in an attractive hamper with built-in deodorizer that is provided. Then the service man "takes over."

And Economy. All this service—all this extra protection against diaper rash costs you far less than paper diapers. In fact, only pennies more a day than home washed diapers.



Consider the fact that an approved diaper service saves you 1,100 hours of toil and bother during baby's diapering period and we feel sure you'll agree this service is worth everything it costs because it gives baby extra protection...gives you more time to enjoy yourself, your husband, your family and friends.

THE SAD SAD SAD STORY OF
UNHAPPY
MRS. M^cTHRIFTY



PRINTED IN U.S.A.

© LEAM CORPORATION
1975

Fig. 9.--Continued.

seems apparent that a mother intending to use a diaper service would consult the Yellow Pages of the telephone directory. The Yellow Pages provide adequate exposure at a fixed cost and do not consume the time required by the mailing program. A classified advertisement was being used. Therefore, a careful review of the program by the management appears to be justified.

Gift Certificates, presented in Figure 3, are available and provide the recipients with an expense-free method of trying the diaper service. In the event the recipients do not eventually continue the service, some exposure has been achieved, however.

Operations

In contrast to Universal, Rock-A-Dry has perfected a cleaning formula that has almost completely eliminated the need for re-washing stained diaper batches. As a member of the National Institute of Infant Services, diaper cleanliness is certified on a monthly basis. The management forwards a random monthly sample to be tested for proper Ph balance and excessive residue bleach. If a problem is discovered, the Institute will help resolve the situation. In-house tests by the management are also conducted on a periodic basis. A sour tester is used to measure Ph balance (5.5 ± 1.5) and Orthotolidine tests residue bleach content.

The delivery schedule is comprised of two routes on Mondays, Tuesdays, and Thursdays and three routes on Wednesdays and Fridays. Each route serves approximately 110 customers.

Financial Findings

The management of Rock-A-Dry employs a full-time accountant to prepare financial statements and maintain records. Several unsuccessful attempts were made to acquire copies of these statements. These attempts included a personal visit, a follow-up letter, and two long-distance phone calls. Needless to say, the management was extremely reluctant to provide the statements in either complete or partial form. However, they did supply some limited data relating to revenues, employees and wages, and equipment costs.

The diaper inventory is purchased from Kendall Corporation and was composed of 9,240 dozen (1,320 customers at seven dozen diapers each), at the time of the study. The cost of one dozen diapers is \$5.50 per dozen compared to \$6.00 per dozen paid by Universal Diaper Service. This cost differential is explained by the volume variances. Thus, Rock-A-Dry has approximately \$50,820 invested in inventory and it represents a principal asset. Average diaper life is 11 months and worn-out diapers are sold as rags for \$2.50 per pound. Only one diaper size is purchased to accomodate both new-born and older babies. The same folding instructions, shown in Figure 4, used by Universal are also provided Rock-A-Dry customers. Although the management would not provide cost data pertaining to 1975 diaper purchases, it was assumed that approximately one-half of the inventory required replacement.

The following list of equipment and current values were provided by the owners:

All equipment was included in the original purchase price of \$81,000.

1. Four step-van delivery trucks; Current value = \$6,000
2. Troy-Slyde-Out washer
(210 pound, 2200 diaper capacity)
Current value = 1,500
3. Troy-Slyde-Out washer
(300 pound, 3800 diaper capacity)
Current value = 1,800
4. Three water extractors
(100 pound capacity each) Current value = 1,300
5. Hot water boiler
(utilizes 280,000 gallons of water monthly)
Current value = unknown
6. One 125, 100, and 250 pound dryers; two 25
pound dryers. All are gas operated and fully
depreciated. Salvage value = unknown

The management indicated the ideal washer, dryer combination would provide drying capacity equal to at least one-half of total laundering capacity. This goal has been met and exceeded with the current drying capacity of 375 pounds per hour and washing capacity of 510 pounds per hour. The management also expressed a desire to replace the present separate washer, extractor system with a combination washer, extractor. Two machines could be purchased at a total cost of \$28,000 and current laundering capacity would be retained.

The company employs seven full-time workers and one part-time worker. The following wage and salary information was provided:

1. Salaries paid to owners = \$18,000 - \$20,000 per owner, per year.
2. Employee wages:
 - a. Two drivers @ \$4.50/hr = \$180/week/driver
 - b. Five diaper folders @ \$2.75/hr = \$110/week/folder
 - c. Full-time washer @ \$3.00/hr = \$120/week
 - d. Part-time washer @ \$3.00/hr = \$60/week, 4 hrs/day.

Due to the unskilled nature of the work, the management experiences a considerable amount of employee turnover. At the time of the study, no company benefits were being offered to employees. However, the owners were seriously considering extending limited benefits to bolster employee retention. On the other hand, the management has provided itself with Blue Cross-Blue Shield health coverage.

A partial reconstruction of a profit and loss statement was made possible by using the limited financial data supplied by the management of Rock-A-Dry and previous expenses provided by Universal. Many of the required items and associated expenses were assumed similar for both firms.

All figures pertain to 1975 and are rounded to the nearest dollar.

Gross income:	\$298,584.00
(Computed on an average weekly use of 60 diapers per customer, 1,320 @ \$4.35/week)	
Expenses:	
1. Salaries	\$ 40,000.00
2. Wages	
(\$17,280, \$26,400, \$5,760, \$2,880)	\$ 52,320.00
	<hr/>
Gross Profit	\$206,264.00
	<hr/> <hr/>

3.	Lost or pilfered diapers (7.3 x \$433)	\$ 3,161.00
4.	Plastic diaper pail containers (300 @ \$2.50 each)	\$ 750.00
5.	Plastic diaper pail liners (7.3 x \$468)	\$ 3,416.00
6.	Deodorizer tablets (7.3 x \$1.08)	\$ 788.00
7.	4620 dozen diapers (\$5.50/dozen)	\$ 25,410.00
8.	Utilities (7.3 x \$800)	\$ 5,840.00
9.	Business and auto insurance	\$ 2,000.00
10.	Laundrying supplies	\$ 2,628.00
11.	Gasoline and maintenance	\$ 13,141.00
12.	Advertising	\$ 1,600.00
13.	Miscellaneous maintenance	\$ 2,570.00
14.	Employee income tax withholding & FICA (Assuming all married persons with two deductions each and a monthly payroll period.)	
	Two drivers : \$1,802 + 1,095 = \$2,897	
	Five folders : \$1,188 + 1,673 = 2,861	
	One full-time washer: 319 + 365 = 684	
	One part-time washer: 0 + 183 = 183	
		\$ 6,625.00
15.	Accountant's fees	\$ 1,500.00
16.	NIIS dues	\$ 1,138.00
	TOTAL	\$ 70,567.00
	Net income before taxes	\$135,697.00
	Corporate Taxes: (22% of \$25,000 plus 26% of \$110,697)	\$ 34,281.00
	NET INCOME AFTER TAXES	<u>\$101,416.00</u>

CHAPTER III

MARKET RESEARCH AND ANALYSIS

General Market Overview and Conditions

Disposable Diaper Market

In the mid 1960's, Procter and Gamble introduced the disposable diaper and initiated one of the greatest marketing successes in recent times. Other corporate giants such as Kimberly-Clerk, Johnson & Johnson, Colgate-Palmolive, Scott Paper, and International Paper entered the market hoping to imitate the success of Procter and Gamble but they were in for some surprises.

Today, P & G maintains roughly two-thirds of the \$650 million disposable diaper market. The other majors are losing heavily on disposables. International Paper dropped almost \$30 million before surrendering. Scott Paper spent some \$15 million on the Baby Scotts and Raggedy Ann and Andy diaper lines; both virtual failures. An experimental line of Scott Totts has been recently introduced. Only Kimberly-Clark with its Kimbies line and more recently Johnson & Johnson have managed to capture a portion of P & G's success. K-C maintains a 17% market share.¹

Simply stated, P & G has perfected the disposable diaper technology whereas the others have not. Making a good disposable diaper that doesn't leak is not easy as Kimberly Clark can attest. Kimbies leaked. P & G encountered similar problems earlier but managed to get

¹"All Those Leaky Diapers," Forbes, February 15, 1976, p. 49.

the bugs out before the competition. The technical problems centered around the use of Rayon for the diaper lining. When properly treated, it allows moisture to pass through to another absorbent layer while remaining dry itself. However, both P & G and K-C are facing a potential rayon shortage and must seek alternatives. Pollution control restrictions are forcing some rayon producers out of business.

But, technical problems aside, the crushing blow for P & G's would-be diaper competitors was that the 1974-75 recession brought the disposable diaper business to a sudden, grinding halt after four years of 25%-a-year growth. In the first half of 1975 there was even a small decline in unit sales. At the same time, the industry had to raise prices from \$10.80 to \$15.40 a case over the last two years.²

Mothers responded to the price increase by using both Pampers and Kimbies overnight diapers (more absorbent) instead of daytime diapers. Fewer changes were required and purchases were down 30 percent for a week's requirements. P & G countered by raising the price of overnight Pampers and introducing a higher priced, extra-absorbent daytime diaper.

There are signs that the disposable market is declining. The only way P & G kept last year's volume from substantially declining was through extensive gimmick-type advertising. The use of expensive coupons, price-offs, and specials kept the after tax margin to eight percent compared to previous margins of ten percent to twelve percent.

John Starr, an independent disposable diaper consultant, predicts that unit sales will increase the same as disposable personal income, or five percent. Price increases of between five to seven percent would bring the total growth to between 10 percent and 12 percent through 1980.

²Ibid.

However, this growth assumes that the current 48 percent share of the total diaper market will be increased to 75 percent. This is a most optimistic outlook considering the current trend away from disposables.

Never admitting defeat, P & G has entered the overseas market in West Germany. It has established 30 percent of the market with Pampers selling for 13 cents a change while confronted with a locally manufactured disposable selling for seven cents a change.

Kimberly Clark has been forecasting a drastic slowdown in sales of disposable diapers for some time and apparently has realized it. A revamped Kimbies line and new ad campaign is being developed in an attempt to counter the trend. Behind an ad theme of 'America, we're out to change your diaper,' the company relaunched Kimbies with improvements including an increase in the size and absorbency of the diapers, a new 'stronger' one-piece tape and a fifth size--extra absorbent daytime. Packaging has been redesigned too, with the name Baby-Shaped Kimbies giving way to just Kimbies. The campaign was initiated in August 1975 with a budget of approximately \$8 million.³

The retail market is said to be about \$385 million as of May 1975 up from a 1974 year-end figure of about \$375 million and that annual market growth was about 22%. Towne-Oller figures show disposable diapers up 23.4% for the first quarter of '75 and 17.8% for the 12 months ending in March. However, executives at Kimberly-Clark are not so optimistic as they have recognized the marginally profitable results of Kimbies and have so indicated to share holders in April 1975. This same report stated that at least part of the discretionary income allocated to disposable diapers can be eliminated in hard times.⁴

Diaper Service Market

The National Institute of Infant Services (NIIS), based in Philadelphia, Pennsylvania, was contacted to obtain information on

³"Johnson Cloth Items Expanding as K-C Revamps Kimbies," Advertising Age, July 21, 1975, p. 1.

⁴Ibid., p. 54.

the current diaper service market and operation. The Institute provided statistics on the number of diaper services currently in operation (350 as of September 1972), but not the number of mothers using such a service. As noted in the previous section, about 50 percent of the total diaper market is serviced by cloth. The percentage of this amount that can be attributed to diaper service use is unknown.

With bettering economic conditions hopefully in the offing, more mothers could use discretionary income to invest in the health of their babies and benefit from the convenience of a professional diaper service. A diaper service can produce a bacteriostatic diaper with obvious advantages over disposables or home laundered diapers. The trend toward smaller families coupled with increased income also tends to support a growing diaper service market. The birth rate is currently down to less than 15 per thousand population, but demographers project an increase due to the sheer number of mothers at or approaching child-bearing age. The Institute acknowledged that first and second babies constitute the greatest market potential for diaper service.

Ecological considerations also enhance the desirability of cloth diapers over disposables. A well known fact is that plastic is not biodegradable and disposables contain plastic. Plastic also retains heat, a major factor causing diaper rash. In fact, a cloth diaper can be considered more "disposable" than the manufactured disposables. Disposables should not be flushed down plumbing although many households do, and ordinances also exist prohibiting disposal of human waste in the garbage. Another drawback associated with disposables is infant skin protection. It is not feasible to impregnate disposables with a

bacteriostat that remains latent on the shelf and effectively inhibits bacterial growth when in use.

With proper diaper processing and skin care in mind, the NIIS and member diaper services have established the Diaper Service Accreditation Council. This Council is comprised of two research pediatricians, one bacteriologist, and one public health representative from a major city, currently Kansas City, Missouri. In addition, three diaper service owners serve on the Council. Standards and guidelines for proper diaper processing have been developed by the Council. Members submit random sample diapers once a month for testing and comparison with established microbiologic and conditioning standards to eliminate caustic residues and maintain Ph requirements.

Six elements are essential for diaper service accreditation:

(1) management committed to high quality service, (2) employee understanding of sanitation procedures, (3) good housekeeping, (4) adequate supervision of diaper processing, (5) plant provisions to minimize cross contamination by germs, and (6) proper sales ethics and customer relations.

In addition to its accrediting function, the Council offers professional guidance to members concerning such areas as potential skin irritations from new soap compounds, new developments in sanitation procedures, and other related subjects of interest.

A professionally processed diaper must meet the following specifications: (1) elimination of bacteria normally found to be pathogenic, (2) finished to the Ph of normal skin ($\text{Ph } 5.5 \pm 1.5$), (3) impregnation with a safe bacteriostat to retard the development of ammonia while in use, (4) sufficient softness to prevent abrasion, (5) adequate absorbency, and (6) whiteness for esthetic reasons.

Most indications seem to signal the continued vitality and growth of the diaper service market in years to come. The growing concern for proper infant care during the diapering period, and increased awareness of diaper service advantages should also advance the market.

Specific Market Research and Findings

Findings Concerning a Former Diaper Service

Considerable empirical research was undertaken to ascertain if a diaper service did, at some time, exist in Great Falls. Among the sources consulted were the public library, Chamber of Commerce, Civic Center, and private individuals. The only source that proved to be beneficial was contact with private individuals. A few of the senior nurses at Columbus Hospital believed a service did exist approximately 1960, but they could not remember specifics. They believed that the Rydell-Murray delivery service was involved. A subsequent conversation with Mr. Rydell indicated that he was not involved in the business but that a Mr. Roy E. Fox may have been.

The conversation with Mr. Fox clearly established that a diaper service was attempted in 1960 but failed. Mr. Fox was the vice president of the former Ideal Laundry and knew the management of the Save-A-Nickel Laundry, 1116 Central Avenue, operating in 1960. It was this laundry that made the unsuccessful attempt at the diaper service. Unfortunately, the management is no longer in the area and unavailable for contact. Mr. Fox recalled that the reasons for failure were twofold. One, Save-A-Nickel appeared financially insecure, and two was an insufficient population base in Great Falls. This diaper service never actually started before Ideal purchased Save-A-Nickel. Ideal was eventually

purchased by the National Laundry, now the largest in Great Falls. The population of Great Falls in 1960 was 55,245⁵ and Mr. Fox thought this figure to be insufficient to support diaper service. He also cited basic rural attitudes and the economy as constraints on acceptance. No further attempts have been made since that time to establish a diaper service in Great Falls. This conclusion was substantiated by consulting all the Great Falls City Directories from 1959 until the present.

The population for Great Falls is projected to be 60,869 in January 1977.⁶ This figure is for the city only and does not include the entire Standard Metropolitan Statistical Area. This projection represents an increase of only 5,624 in the 17 years from 1960. Noting this small increase, one might conclude that the population base remains insufficient. Taking this into consideration, a market survey was developed to accumulate and analyze public opinion, attitudes, and demand. The findings of this survey are discussed in the following section.

Sample Survey Results and Conclusions

A most important aspect of this study was a reliable determination of public demand for a diaper service. Without sufficient demand, needed revenues and profits could not be generated. Direct feedback from potential customers was needed to provide this required information.

⁵1961 Great Falls City Directory, (Kansas City: R. L. Polk & Co., Publishers, 1961), p. viii.

⁶1976 Editor & Publisher Market Guide, (New York: Editor & Publisher Co., Inc., 1975), p. 421.

Therefore, the telephone questionnaire, illustrated in Figure 10, was used in conjunction with recent birth data to establish public attitudes about a diaper service. The telephone was selected as the primary means of contact for the obvious reasons of speed, convenience, and person-to-person communication. Throughout the survey period, the advantage of this interview method was quite evident. A mother's views and ideas were ascertained easily with a certain amount of definition not possible through other means.

Survey Structure

The telephone survey base was composed of all recent mothers identified in the Great Falls Tribune vital statistics section covering the period March 12 through May 30, 1976. A total number of 294 births were recorded in this period, but only 256 were considered in the base as the study was confined to the Great Falls city limits. As a matter of practicality, Malmstrom Air Force Base and rural routes were included in the survey base although technically outside the city limits. With the exception of those 81 residences having either no telephone, unlisted numbers, or no contact, all others included in the survey base were contacted. The total number of responses equalled 175.

In order to diversify survey inputs, a limited number of questionnaires were mailed to mothers in the survey base. Twenty-eight questionnaires were mailed on May 12, 1976, to mothers having either no telephone or unlisted numbers. The questionnaire was accompanied by the cover letter presented in Figure 11, and sent with a stamped self-addressed envelope. As of this time, seven have been

Hello: I'm Bob Schani. I am conducting a telephone survey concerning the possibility of owning and operating a diaper service. Would you please take a few minutes to answer some questions? Yes ____ No ____.

1. Have you ever used a professional diaper service?
Yes ____ No ____.
2. If yes, what do you consider to be the greatest benefit of such a service?

3. If no, have you ever considered using a diaper service?
 - a. Why? _____
 - b. Why not? _____
 - c. If this service were available at the time of your child's birth, would this affect your consideration?
Yes ____ No ____.
4. Will you please tell me the type of diapers you are presently using? _____
5. Would you be willing to pay \$4.00 or \$4.50 per week if such a service were available? Yes ____ No ____.
Why not? _____
6. If you used the diaper service, would you agree to rinse soiled diapers prior to placing in a container supplied by the service?
Yes ____ No ____ Why not? _____
7. How long would you expect to use the diaper service?
8. Is your husband in the military? Yes ____ No ____.
9. Thank you very much Mrs. _____.

Fig. 10.--Sample telephone questionnaire.

4640A Ironwood
Great Falls, Montana

Dear Mrs.

Congratulations on the recent birth of your

Concerning the type of diapers you are now using, you must, by necessity, choose one of only two alternatives: (1) either disposable, or (2) cloth requiring home laundering.

Great Falls does not presently have a diaper service, but I intend to offer this alternative if enough mothers express an interest in such a service. In conjunction with this effort, I would greatly appreciate a few minutes of your time to answer the enclosed questionnaire. A stamped, self-addressed envelope has been provided for your convenience in returning the questionnaire.

I would like to emphasize that the price quoted in question number 5 is very close to what you are now paying for disposable or cloth diapers.

Sincerely,

R. L. SCHANI

Fig. 11.--Questionnaire cover letter.

received for a response rate of 25 percent; somewhat higher than the 10 to 15 percent originally expected. Of the seven received, three mothers indicated they would use the diaper service and four would not. Originally, it was assumed that the majority of returned responses would be affirmative and that non-receipt would indicate a negative response. However, this was not the case. Therefore, it cannot be implied that the remaining 21 questionnaires would be negative.

The chief Obstetrics Nurse at Columbus Hospital and LaMaze prenatal class instructors were asked to distribute questionnaires to expectant mothers. Both were very cooperative and interested in the survey. Questionnaires were distributed to both June and July 1976 classes. A total of 46 responses were received.

Table 1 illustrates the combined results of all completed questionnaires.

Questionnaire Structure

It must be noted that totals for specific questions do not necessarily equal the total number of questionnaires received for a particular group. This situation was caused by a respondent either not completing the questionnaire or failing to recognize the mutual exclusion aspect of the questionnaire. In the case of the LaMaze group for Question Number 8, the total number of "yes" and "no" responses equalled 33 but 34 questionnaires were received. One individual simply did not complete this question.

Several examples can be cited concerning the exclusion aspect of the questionnaire. For instance, a "yes" answer to Question Number 1 precluded the asking of Question Number 3. Therefore, no response was

TABLE 1

COMBINED RESULTS OF ALL COMPLETED QUESTIONNAIRES

		T	LM	PN	M	Total
Number of Responses		170*	34	23	7	223
Question #1	Yes	5	0	1	0	6
	No	165	34	11	7	217
Question #2 *						
Question #3	Yes	44*	14	3*	4	65
	No	116*	20	8*	3	147
	Maybe	5				5
	(a) *					
	(b) *					
	(c) Yes	36*	12	6	4	58
	No	66*	22	6	3	97
	Maybe	19				19
Question #4	Cloth	128	16*	3*	5	152
	Dispos.	42	5*	3*	2	52
Question #5	Yes	77	15	5	3	100
	No	90	19	7	4	120
	Maybe	3				3
Question #6 *						
Question #7 *						
Question #8	Yes	71	19	6	4	100
	No	99	14*	6	3	122

Key: T = Telephone Questionnaire

LM = LaMaze Questionnaire

PN = Pre-Natal Questionnaire

M = Mailed-Out Questionnaire

* = Explanation Follows

expected for that entire question for that particular questionnaire. Or a "yes" answer to Question Number 3 eliminated the need to ask Question Numbers 3b and 3c. A "yes" answer to Question Number 3 also assumed a positive response to Question Number 3c. On the other hand, a "no" or "maybe" answer to Question Number 3 necessitated asking either 3a, 3b, or 3c, as appropriate. Likewise, a "no" or "maybe" response could even result in a "maybe" response to Question Number 3c.

All questionnaires, excluding those accomplished by telephone, had Question Number 3c completed. Obviously, the individual completed the questionnaire disregarding the built in exclusion provision. The telephone method precluded asking Question Numbers 6 and 7 as they did not apply if the answers to Question Number 5 were negative.

Questionnaire Results

In the telephone portion of the survey, only five mothers, or 2.9 percent, did not respond to the questionnaire. A non-response was counted as a valid response but not included in the overall response total. That is, a telephone total of 170 instead of 175 was used. Non response to a questionnaire created a gap in the total number of responses to all eight questions.

Of the five mothers that had previously used a diaper service, only one was dissatisfied. The reason was the firm's inadequate service and delivery policies. The other four would definitely use the diaper service if available in Great Falls.

The overwhelming response to Question Number 2 can be summed up as a convenience. Although some responses did indicate time and even cost advantages.

As previously mentioned, the five response deficit in the 165 telephone total to Question Number 3 is explained by five responses not required from mothers that previously used a diaper service. The same explanation applies to the pre-natal total of eleven in Question Number 3.

For similar reasons, the telephone total of 121 in Question Number 3c does not equal the 170 response total. However, the built-in exclusion factor would add the 44 "yes" responses to Question Number 3 as "yes" responses to Question Number 3c. These mothers have already considered using the service. After considering the five mothers not asked, the total does equal 170.

The answers to Questions 3a and 3b pertaining to consideration of use disclosed related responses. Those respondents not considering use of the diaper service offered a variety of reasons. The majority owned home laundering facilities and wanted to launder their own diapers. Others were not aware of the diaper service function, stated they could not afford it, or simply had never considered using a diaper service. The current non-availability of a diaper service accounted for this last response. A few mothers commented that their babies were allergic to cloth and must use disposables. Those that considered using the service were attracted by the convenience factor and some mothers simply disliked laundering. Others thought the service was less expensive than either disposables or home laundering.

If a reply indicated the use of both cloth and disposables to Question Number 4, the mother was considered to be primarily using cloth. Most mothers use disposables for a few weeks or months then switch to cloth; using disposables only when traveling. The expectant-mother

responses from LaMaze and pre-natal classes did not equal the total number of questionnaires because a number of respondents were undecided concerning the type they would use.

Question Number 5 received only three "maybe" answers demonstrating that mothers had definite attitudes concerning use of the diaper service. The tentative price range of \$4.00 - \$4.50 was developed in conjunction with case study findings and the revised cost comparison table (Table 2) for the Great Falls area. The average weekly cost of between \$5.00 and \$6.00 for disposable diaper use was also considered. The intent was to undercut the disposable price and capture a portion of that market. On a strictly cost basis, mothers using disposables recognized the cost advantages more readily than those selecting home laundering. The convenience of home laundering, cost considerations, and use of previous children's diapers accounted for the majority of negative responses to Question Number 5. It was difficult to convince mothers that home laundering costs could approximate those of the diaper service when articles other than diapers also require laundering. In many cases, those not willing to pay the proposed price did agree that it seemed to be reasonable. Overall, 45 percent of those surveyed indicated they would use the diaper service if available.

Initially, a target acceptance rate of between 20 and 30 percent of the anticipated market base was considered necessary for adequate demand. This target was based on the findings in the case studies, and the projections shown in Figure 12. In 1975, 1,636 births were recorded in Great Falls. This total represents 1,290 Deaconess Hospital births and 346 Columbus Hospital births. Excluding approximately 216 out-of-town

TABLE 2

REVISED COST COMPARISON CHART

Diaper Service		Disposable Diapers*		Home Laundering Costs per Load#	
40 diapers per week	\$4.00	Pampers Newborn (30)	\$1.90	Pre-soak (1/2 cup)	\$.24
50 diapers per week	4.10	Pampers Daytime (30)	2.15	Detergent (1 cup)	.34
60 diapers per week	4.20	Pampers Overnight (12)	1.23	Bleach (1/2 cup)	.05
70 diapers per week	4.30	Pampers Toddler (12)	1.42	Softener (1/2 cup)	.12
80 diapers per week	4.40	Kimbies Newborn (30)	1.94	Water (28 gals.)	.03
90 diapers per week	4.50	Kimbies Daytime (30)	2.19	Heat for water	.08
Average weekly cost for 90 diapers =	\$4.50	Kimbies Overnight (12)	1.27	Electricity (washer)	.02
		Kimbies Toddler (12)	1.50	Electricity (dryer)	.15
		Average weekly cost (depending on diaper type and usage) =			
Additional diapers (over 90) are 3 cents each.		\$5.75 - \$6.00		Diapers (300 load write-off)	.28
				Diaper pail (300 load write-off)	.03
				Washer wear	.12
				Dryer wear	.08
Total cost per load = \$1.54					
Average weekly cost for					
90 diapers (4 loads) = \$6.16					

*Prices indicated are the averages for identical diaper brands priced at various local stores and listed in Table 3.

#Local price comparisons for all costs as shown in Figure 5, did not vary enough to require adjustment.

NOTE: It has been noted that not all households will use an average of 90 diapers per week and therefore the average weekly cost would be less.

CITY POPULATIONS BY AGE AND SEX USING MIGRATION-SURVIVAL
METHOD FOR GREAT FALLS

Sex	Age Years	Census 1960	Census 1970	Net 1970 Migration	Projections	
					1975	1980
Male	0 - 4	3,919	2,609	-488	2,603	3,026
	5 - 9	3,096	3,380	464	3,619	3,920
	10 - 14	2,515	3,461	-478	3,147	2,304
	15 - 19	1,546	2,543	-570	2,756	2,776
	20 - 24	1,780	2,232	-236	2,604	3,072
	25 - 29	2,042	2,088	591	2,600	3,435
	30 - 34	1,906	1,695	- 60	1,831	2,126
	35 - 39	1,892	1,677	-321	1,665	1,715
	40 - 44	1,766	1,650	-197	1,568	1,467
	45 - 49	1,558	1,674	-110	1,629	1,484
	50 - 54	1,254	1,556	- 83	1,556	1,454
	55 - 59	1,034	1,276	- 95	1,343	1,371
	60 - 64	844	1,005	- 52	1,117	1,247
	65 - 69	802	759	- 17	821	937
	70 - 74	711	558	- 12	580	664
	75 & Over	754	972	76	1,063	1,138
	Totals	27,419	29,135	-1,588	30,492	32,136
Female	0 - 4	3,804	2,540	-440	2,533	2,941
	5 - 9	3,061	3,210	-941	3,420	3,717
	10 - 14	2,398	3,355	-450	3,057	2,240
	15 - 19	1,993	2,969	-117	3,146	3,113
	20 - 24	2,213	2,715	322	3,185	3,799
	25 - 29	2,000	2,120	140	2,525	3,158
	30 - 34	1,847	1,794	-427	1,941	2,200
	35 - 39	1,794	1,694	-297	1,722	1,796
	40 - 44	1,771	1,709	-114	1,685	1,660
	45 - 49	1,526	1,679	- 48	1,663	1,585
	50 - 54	1,181	1,627	- 73	1,662	1,570
	55 - 59	1,009	1,338	- 86	1,431	1,472
	60 - 64	907	1,095	- 6	1,275	1,509
	65 - 69	865	892	- 8	1,006	1,183
	70 - 74	742	780	25	846	942
	75 & Over	827	1,439	195	1,596	1,650
	Totals	27,938	30,956	-2,325	32,693	34,535
City Totals		55,357	60,091	-3,913	63,185	66,671

SOURCE: Jon Thompson, "Feasibility Study for a New Medium-To-Large Sized Supermarket in Great Falls, Montana," Professional Paper, University of Montana, 1975.

NOTE: Assumes continued 1960 - 1970 migration trends. It illustrates what the city population would be in 1975 and 1980 if 1960 - 1970 birth, death and migration rates remain constant through 1980.

Fig. 12.--Great Falls population projections.

births, a potential annual market base of about 1,420 appeared to exist for Great Falls in 1975.

The survey period covered almost three months of actual births. The survey also included the pre-natal classes and mailed-out questionnaires. The total sample size of 223 equaled 16 percent of the overall 1975 market base. However, the 175 sample size total from the telephone portion of the survey established 68 percent of the 256 survey base. The survey structure and questionnaire content established the validity of these sample sizes.

Assuming a 100 percent survey could have been accomplished, an acceptance rate of between 30 and 40 percent might be a reasonable projection. Although this figure is lower than the 45 percent indicated by the actual survey results, a larger response base could diminish the acceptance rate. But through this same reasoning, the rate could increase. A conservative estimate is more realistic for subsequent budgeting purposes.

All mothers agreeing to use the diaper service also agreed to rinse out soiled diapers. The response to Question Number 7 varied from a few months to until the child was out of diapers. Customer life must also be correlated with the quality of service provided.

Summarization

Some interesting comparisons between question responses were developed and are significant to this survey. Of the 147 "no" and five "maybe" responses to Question Number 3, 58 (38 percent) stated they might consider using the service if available at time of birth and 97 (64 percent) stated that availability would not affect their consideration.

Nineteen (12.5 percent) remained undecided. Total responses exceeded their 152 and also exceeded 100 percent because respondents, other than those surveyed by telephone, gave multiple answers.

Comparing Question Number 3 to Question Number 5 produced the following results: 65 respondents indicated possible consideration and 52 of these (80 percent) would use the service; 13 (20 percent) would not. Of the 147 that had not considered using the service, 44 (30 percent) would use and 103 (70 percent) would not. Among the five undecided respondents, two would use, one would not, and two remained undecided.

Among the 152 respondents that used or anticipated using cloth diapers, 60 (39 percent) would use the diaper service and 89 (59 percent) would not. Three remained undecided. Of the 52 respondents selecting disposable diaper use, 29 (56 percent) would use the diaper service and 23 (44 percent) would not. Nineteen expectant mothers were undecided as to which type of diaper they would eventually use; however, 5 (26 percent) would utilize the diaper service and 14 (74 percent) would not.

One hundred military dependents were included in the survey and 41 of these (41 percent) would use and 59 (59 percent) would not use the diaper service. The remaining 122 civilians surveyed indicated that 59 (48 percent) and 65 (52 percent) respectively, would or would not use the diaper service.

Hospital Interviews with Chief Obstetric Nurses

Mrs. Hidalgo, Chief OB Nurse, was contacted and interviewed concerning newborn diaper usage for Deaconess Hospital. She explained that the nursing staff used cloth diapers exclusively and the hospital

maintained its own laundering facility. Cloth was preferred for controlled hygienic processing and comfort. The chances of both diaper rash and cord infection are diminished by cloth diaper use. The nursing staff has never considered switching to disposables and highly recommends continued cloth diaper use to discharged mothers. Mrs. Hidalgo commented that mothers had, on several occasions, inquired about the availability of a diaper service in Great Falls. She would be very willing to distribute and explain any promotional materials provided to the hospital by the proposed diaper service.

The interview with Mrs. Gaudreau, Chief OB Nurse of Columbus Hospital, established that disposables were preferred, but for essentially the same reasons as the cloth preference cited by Mrs. Hidalgo. Although the throw-away convenience factor was most important, certain antiseptic advantages appealed to the nursing staff. The hospital maintains a laundry facility but it is extremely harsh on diapers. Cloth diapers were previously used until nursing staff insistence prompted the switch. Since Columbus handles only one-third as many births as Deaconess, the convenience of disposables appeared to be the primary reason for the change to disposables.

Approximately 350 annual births, or 30 per month, are administered by Columbus hospital. Pampers are presently being utilized at a cost of \$13.00 per case; each case containing 360 diapers. Three to five cases are used monthly. The diapering needs results in a monthly expense of \$52.00. The hospital is paying \$1.07 per 30 diapers compared to a retail price of \$2.00 for the same quantity of newborn disposables. A quantity discount on the wholesale price is responsible for this difference. Even with this discount, the diaper service would cost only

42 cents more per 30 diapers. The monthly cost of the diaper service would be \$72.00 compared to the present expense of \$52.00. This assumes a monthly usage rate of four cases. Mrs. Gaudreau stated that a switch might be considered with staff approval. She agreed to distribute any promotional literature supplied to the hospital by the proposed diaper service.

Day-Care Center Market Potential

Originally, the day-care center market potential appeared promising, but further research indicated otherwise. Montana law requires that any child attending a day-care center must be previously toilet trained. This requirement effectively eliminated these facilities from further consideration.

Health Department Requirements

Contact with the county health department disclosed no restrictions on the formation and operation of a diaper service. On the other hand, the department has never been involved with the operation of a diaper service. Only actual operations and subsequent health problems, if any, would directly involve the department. No hygienic problems are anticipated, however.

CHAPTER IV

PROMOTIONAL REQUIREMENTS

After analyzing and interpreting the market survey results, it became readily apparent that a majority of respondents were unfamiliar with the diaper service concept. Several respondents to the survey were not aware of the function of a diaper service. Others wanted more information on the service and found it to be quite advantageous and compatible with their diapering requirements. Therefore, an active and educational advertising program, as developed in this chapter, is needed to acquaint the public with a diaper service.

The most important aspect of this advertising campaign should be initial exposure with maximum generation of information at the lowest cost. Realizing that a specific target market of limited duration will exist, the types of promotional activities must be examined carefully in terms of cost versus benefit relationships.

Potential Strategies and Tactics

Radio and television can be immediately eliminated for two reasons. The first is cost and the second is that there would be no assurance that the potential market would be reached at the time when the diaper service would be needed. It must be emphasized that mothers need only be informed of the existence of the diaper service and then provided with basic cost and service information. The mother

is then in a position to make her decision. Obviously, radio and television could readily provide these informational specifics, but the overall benefits may not be justified by the expense.

Less expensive but more direct means of promotion are available. Extensive use of easily distributed literature could provide maximum exposure at approximately the proper time. A basic promotional package would be compiled and consist of the following: (1) an introductory letter similar to that shown in Figure 8 ; (2) a revised cost comparison chart modeled after that presented in Figure 5, and developed in Tables 2 and 3; (3) a prepaid business reply card, illustrated in Figure 7; and (4) informational pamphlets and copies of medical journal extracts, presented in Figure 9. Packages would then be distributed to infant shops, hospitals, pre-natal classes, and offices of both obstetricians and pediatricians.

Monthly drawings providing two free weeks of diaper service to the winner would be established at several infant shops. Arrangements could be made with the owners to promote the contest and provide customers with promotional information. This program would establish contact with both the expectant and recent mother.

Arrangements have been established with instructors of pre-natal classes to supply the promotional packages to expectant mothers. LaMaze, Columbus, and Deaconess classes would be involved. Since these classes are conducted approximately one to two months prior to delivery dates, the mother could have the advance information necessary to consider the diaper service. The diaper service management may also wish to present lectures at these classes.

TABLE 3

BRAND NAME DISPOSABLE DIAPER COSTS

Diaper Brand and Type	B	S	K	A	Average Price
<u>Pampers</u>					
Newborn (30)(6-11 lbs)	\$1.80	\$1.99	\$1.77	\$2.04	\$1.90
Daytime (30)(11-16 lbs)	2.10	2.19	2.12	2.19	2.15
Overnight (12)(11-23 lbs)	1.15	1.29	1.14	1.34	1.23
Toddler (12)(over 23 lbs)	1.40	1.49	1.31	1.49	1.42
<u>Kimbies</u>					
			*		
Newborn (30)(up to 11 lbs)	\$1.75	\$1.99	\$1.99	\$2.04	\$1.94
Daytime (30)(over 11 lbs)	2.10	2.19	2.28	2.19	2.19
Overnight (12)(over 11 lbs)	1.15	1.29	1.33	1.29	1.27
Toddler (12)(over 20 lbs)	1.35	1.49	1.57	1.58	1.50

Key: B - Malmstrom Air Force Base Exchange

S - Skaggs Drug Center

K - K-Mart

A - Albertsons

* - K-Mart does not stock Kimbies, but carries its own brand instead. Due to quantity differences, K-Mart brand prices were not included in the average price. However, Kimbies prices at Shop'N Jot were substituted.

During her hospital stay, the mother is usually presented a complimentary gift package comprised of products from such companies as Proctor & Gamble, Johnson & Johnson, and Gerber. The diaper service promotional package could also be included in this package. The package may be the mother's first exposure to the diaper service or perhaps she had already known about it. In either case, the package might prompt her to use the diaper service. An added incentive would be provided by offering the first four weeks of service for the price of three. Mothers are naturally concerned with diapering needs after leaving the hospital and any indecision concerning the diaper service may be favorably influenced by the literature. A follow up phone call made to the mother after discharge might be the convincing factor in some cases.

Obstetricians and pediatricians were contacted to obtain their views about the service. They were convinced that a diaper service provides a diaper of superior antiseptic quality to that of home laundered or disposable diapers. Obstetricians could maintain copies of the promotional package and discuss advantages of the diaper service with mothers. One pediatrician was convinced that improper home laundering and disposables were major causes of diaper rash. He stated that he would be very willing to encourage mothers, with babies having diaper rash problems, to try the diaper service. This professional support would be an invaluable promotional tool.

Undoubtedly, the Yellow Pages of the telephone directory appear to be the most productive method on a continual basis. This is where most mothers would direct any initial inquiry. The cost of a business phone is \$20.00 per month and includes a listing in the white pages plus a standard small print listing in the Yellow Pages. For an additional

\$5.30 per month, a one-half inch block advertisement with bold print can be obtained. This type of listing allows a concise description of the service and would be more informative. For an additional \$8.05 per month, a one-inch block advertisement could be used to provide even more information and exposure. However, the one-half inch advertisement would be satisfactory and bring the total monthly charge to \$25.30, or \$303.60 annually.

An occasional advertisement in either the Consumer's Press or Minuteman might also broaden the exposure of the diaper service. A fifteen word or less service advertisement in the Press costs \$1.00. The larger block-type descriptive advertisements used primarily by businesses are \$6.00 for a $3\frac{1}{2} \times 1\frac{1}{2}$ inch block (one column inch) or \$12.00 for a $3\frac{1}{2} \times 2$ inch block (two column inches). The Minuteman charges \$8.75 and \$17.50 respectively, for similar coverage.

KARR-KOPR radio station offers a coupon package providing a variety of services and purchase specials valued at considerably more than the original purchase price of \$20.00. A special diaper service offer should do well and gain public attention through this method.

Membership in the National Institute of Infant Services (NIIS) would be applied for with the forms provided in Figure 14. Educating the public on the importance of this membership and accreditation must also be stressed. The fact that the service is fully accredited by a national organization should definitely aid in establishing customer trust and confidence.

In addition to those types of promotion requiring a cash outlay, some are essentially free. The most significant of these is word of mouth recommendations from present and prospective customers.

NATIONAL INSTITUTE OF INFANT SERVICES
2017 Walnut Street
Philadelphia, Pennsylvania 19103
Phone: 215/LO 9-3650

TO: The Board of Directors of the National Institute of Infant Services

I hereby apply for membership and enclose my check in the amount of \$35 initiation fee. I understand that if my application is approved, upon becoming a member I will have the privilege of using the NIIS seal, and I agree to cease and desist any use of that seal should I, for any reason, cease to be a member of the NIIS.

Date: _____ By: _____
Proposed By: _____ Title: _____
Approved By: _____ Firm: _____
Date of Approval: _____ Street Address: _____

Customer Count on Saturday _____ ZIP: _____
December 29, 1973: _____

Dues in the National Institute of Infant Services

SCHEDULE

\$.65 per customer per year, plus
\$310 - for services with customers up to 999 customers
\$280 - for services with 1,000 to 1,499 customers
\$250 - for services with 1,500 to 1,999 customers
\$220 - for services with 2,000 to 2,999 customers
\$190 - for services with 3,000 to 3,999 customers
\$160 - for services with 4,000 customers and over
Minimum Annual Dues \$500 - (293 customers)
Maximum Annual Dues \$3,250 - (4,754 customers)

NOTE: Dues are inclusive of all regular association costs, including the fee for monthly laboratory testing.

GERIATRIC SCHEDULE

Member firms who supply a Geriatric Service to nursing homes and other institutions must pay annual dues equal to \$1 per thousand dollars of total annual sales volume for Geriatric Services.

Minimum Annual Dues: \$10 - Maximum Annual Dues: \$500

Dollar Sales Volume for Geriatric
Services as of Saturday, December 29, 1973 - \$ _____

Fig. 13.--National Institute of Infant Services application and questionnaire.

NIIS MEMBERSHIP APPLICATION QUESTIONNAIRE

(All Applicants Must Fill Out)

I. EQUIPMENT -

- a. Capacity of washer(s) _____
- b. Type of washer(s) - (open, pullman, y-pocket, etc.) _____
- c. Make of washer(s) _____
- d. Number of loads washed per week _____

II. WASHING PROCEDURE -

- a. Is a water softener used? _____
- b. Is an antiseptic used? _____ If so, brand name: _____
- c. List wash formula below:

<u>Step</u>	<u>Quantity and Type of Supplies</u>	<u>Water Level In Inches</u>	<u>Temp.</u>	<u>Time</u>
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____

III. DELIVERY SCHEDULE -

- a. Do you make regular deliveries and pick-up at customer's homes? _____
- b. How many trucks do you operate? _____
- c. Are these trucks used exclusively for diaper service? _____ If not, explain _____
- d. Do you have any cash and carry business? _____ If so, what percent of Total? _____.

Fig. 13.--Continued.

A quality product and service would also constitute a form of promotion. It is obvious that a satisfied customer will continue the service whereas a dissatisfied one will not.

The firm's name on delivery trucks could serve as mobile advertising requiring only the initial expense.

A gift certificate program would serve as an indirect means of attracting new customers. The purchaser of the certificate serves a useful purpose by introducing the recipient to the diaper service. The recipient may not be aware of the diaper service or be undecided about using it. Nevertheless, the gift certificate provides her with a cost-free trial period. It is during this short period, usually a week or two, that the diaper service either retains or loses this customer through its performance.

Competition and Related Considerations

The absence of competition becomes very advantageous from a promotional standpoint. Public awareness must be achieved but must also be accompanied by customer satisfaction. Although effective advertising is certainly a necessity, a quality diaper service will, itself, act as a formidable restraint on future competition. After an effective promotional program has been established, more time is available for improving the diaper service operation.

CHAPTER V

FINANCIAL CONSIDERATIONS

Business Form

Preferably, the diaper service should be developed as either a proprietorship or corporation with attention given to the various tax considerations of each. Since the amount of income available for reinvestment is closely related to taxation of earnings, the tax rate applied to a given income stream becomes a critical factor.

The marginal tax rates applied to individuals range from 14 percent to 70 percent whereas the marginal tax rates applied to corporate incomes are either 22 percent or 48 percent. All income under \$25,000 is taxed at 22 percent with a 26 percent surtax applied to income over that amount. According to the 1975 tax rate schedule Y, a married taxpayer filing a joint return pays 22 percent or more when annual taxable income exceeds \$8,000. He reaches the 48 percent marginal tax bracket when taxable income exceeds \$44,000. Therefore, the corporate entity may appeal to the taxpayer earning incomes subjecting him to tax brackets exceeding 22 percent or 48 percent. It then becomes possible to maximize income by splitting an income stream between a corporation and an individual even at low income levels.

One may have doubts about the corporate form considering that the income is subject to double taxation. It is true that the income

will be taxed first as the corporation's taxable income and later as dividends become a part of the stock holder's taxable income. This problem is real for large, publicly owned corporations, but smaller closely held firms can circumvent the problem.

Perhaps the easiest method of avoidance is for the owner to pay himself a salary for his service in the corporation. Furthermore, the salary can be utilized as a corporate deduction for income tax purposes. The only restraint is that the salary be reasonable in amount so it will be taxed only once as personal compensation. Other methods include renting property from the owner and paying him a reasonable rent, paying interest on money borrowed from the owner, or paying a royalty for the corporation's use of the owner's patent or copyright. The amounts paid for these items reduce taxable income for the corporation by serving as deductions while increasing the gross income for the owner.

In using this corporate tax rate shelter, the owner must be cautious to avoid the Accumulated Earnings Tax instituted by Congress. This tax is intended to prevent individuals from using the corporate form for the sole purpose of avoiding higher personal marginal income tax brackets. Only unreasonable amounts above the amount of \$100,000 are subject to the tax. Usually, accumulations are not found to be unreasonable if the owner is putting them to proper use. Obviously, this penalty will not affect the diaper service in its early stages but may become a factor in the future.

Assuming a business incurs net operating losses, as many new ventures do, it is desirable that it be organized as a tax conduit rather than a separate taxable entity. Any business that anticipates

or actually experiences frequent losses is usually organized as a proprietorship, partnership, or Sub-chapter S corporation. This allows the owners maximum use of tax losses on their personal returns. After meeting certain qualifications, a Sub-chapter S corporation is organized as a corporation but taxed as an individual or partnership. Once the venture becomes profitable, the Sub-chapter S election can be terminated to take advantage of corporate tax rates.

The suggestion that loss operations be organized as non corporate forms assumes that the owner is in a higher marginal tax bracket than the corporation. It then becomes preferable to offset the loss on his own taxable income. On the other hand, a loss carried back by a corporation to offset taxable income of prior years taxed at 48 percent is preferable to utilizing this same loss against personal income taxed at less than 48 percent.

A loss occurring in a separate corporate entity cannot be passed through to the owner for his personal use. It must, however, be used to offset preceding or subsequent income derived by the corporation. For example, the loss can be carried back three years against gross income and treated as a new deduction, possibly resulting in a refund. Any remaining excess loss is then applied to the second and immediately preceding year. If that process is insufficient to absorb the loss, it can be carried forward to offset gross income earned in the following five years.

The owner of a proprietorship is not generally considered an employee of his business for tax purposes, but the owner of a corporation may be an employee. In general, tax advantages accrue to employees that are not available to the self-employed. As is the case with closely

held corporations, the best-of-all-possible tax worlds can be achieved through owner-employee status.

Location

The exact location of the business is not particularly important. Although a central location within the city might be preferred from a logistics standpoint. Of greater importance is the rent that will be paid and the terms of the lease. A suitable building should be available from between \$200 and \$300 per month with a one to three year lease. Depending on the building, certain interior modifications may be necessary to accomodate the equipment and diaper processing. Initially, leasing is preferred to ground-up construction of a building. As the service become established and profitable, consideration can then be given to possible construction.

Start-Up Costs

Diapers @ \$6.00 per doz./7 doz. per customer/200 customers	\$ 8,400
Two Wascomat (50 lb.) washer-extractors	8,000
Two American (50 lb.) gas dryers	950
One delivery truck (used)	4,000
Plastic diaper pails (100)	250
Diaper pail liners (6,000)	234
Furniture and construction costs	500
Deodorizer tabs	90
	<hr/>
	\$22,424
	<hr/>

Financing for the start-up costs will be obtained from the Northwestern Bank. A total loan of \$20,000 will be obtained at an annual interest rate of 11 percent for a five year period. The bank desires that 20 percent of the start-up capital be provided by the owner. As a general rule, the bank will not finance 100 percent of the start-up capital required for a new business. With 100 percent financing, the monthly payment would be \$550 per month on a maximum loan of \$25,000 instead of the \$440 payment on the \$20,000 amount.

The Small Business Administration (SBA) representative from Helena, Montana, was contacted concerning the possibility of obtaining more favorable SBA financing for the venture. However, the SBA will only insure the loan from a commercial source, not actually institute the loan unless the borrower was previously denied financing by two commercial sources. This policy allows the SBA to finance those ventures deemed to risky by commercial banks. Apparently, Northwestern anticipated that the diaper service would be a success.

The Malmstrom Federal Credit Union was also contacted, but it does not lend for commercial business purposes.

Projected Income Statement

Year ended December 31, 1977

Sales (150 customers @ \$4.30/customer/week	\$33,540
Selling and administrative expense (Figure 15)	<u>23,396</u>
	\$10,144
Add other income: discounts earned (It is anticipated that purchase discounts earned will average 2.0% of gross payments, \$9,774)	<u>195</u>
	\$10,339
Interest expense: \$20,000 @ 11% = \$2,200	
Rent (\$300/month) = \$3,600	<u>5,800</u>
Gross income	\$ 4,539
Taxes on income (assuming corporate form)	<u>999</u>
Net income	<u><u>\$ 3,540</u></u>

Fig. 14.-- Pro Forma Financial Projections

Selling and Administrative Expense Budget
Year ended December 31, 1977

Owner salary	\$18,000
Depreciation on equipment (10 year life/straight line, salvage value ignored)	1,295
Insurance (\$20,000 - \$25,000 insured value) liability = \$ 42.00) Source: Farmer's fire = \$200.00) Insurance Group medical = \$ 7.00)	249
Telephone	304
Supplies	800
Delivery expense (150 gal/mo @ \$.55 per gal)	990
Advertising	175
NIIS dues	408
Utilities (gas and electricity)	700
Repairs and maintenance	325
Bad debts and pilferage	150
Total fixed and variable costs	<u>\$23,396</u>

Fig. 15.--Cost Projections

Return on Investment

The formula for calculating the rate of return on investment is as follows:

$$\text{ROI} = \frac{\text{net profit}}{\text{investment}}$$

For purposes of this study, total investment, or \$25,000, will be used in the formula. This figure more accurately reflects overall management performance on the combined bank loan of \$20,000 and owner's equity of \$5,000.

$$\text{ROI} = \frac{3,540}{\$25,000} = 14\%$$

Break-Even Analysis

The purpose of the break-even analysis is to determine the relationship between fixed costs, variable costs, sales volume, and their subsequent effect on profits. The analysis can determine either the dollar amount of sales volume or the unit sales needed to cover total fixed and variable costs. All costs must be accurately defined in order to develop a meaningful break-even point. Since the ultimate revenue producing potential of the diaper service is directly correlated to the number of customers, the analysis will focus on the unit sales break-even point. One unit is the equivalent of one customer for one year.

The following formula will be used:

$$X = \frac{F}{P-V}$$

where X = number of units

P = annual revenue per customer (\$224)

V = annual variable costs per customer

F = fixed costs

$$X = \frac{\$11,136}{\$224-21} = 55 \text{ customers}$$

Including an annual salary of \$18,000 in the variable cost total would change the break-even point as follows:

$$X = \frac{\$11,136}{\$224-141} = 134 \text{ customers}$$

Any corresponding decrease in salary or other variable costs would naturally lower the break-even point.

The above analysis was computed using the following fixed and variable costs:

<u>Fixed:</u>	\$ 5,280 - loan payment
	3,600 - rent
	1,295 - depreciation
	249 - insurance
	304 - telephone
	408 - NIIS dues
	<hr/>
	\$11,136

Variable:	\$ 800 - supplies
	990 - delivery expense
	175 - advertising
	700 - utilities
	325 - repairs and maintenance
	150 - bad debts and pilferage
	<hr/>
	\$3,140

This \$3,140 variable expense total represents \$21.00 per customer per year assuming expenses calculated for 150 customers.

Including a salary of \$18,000 per year would increase the variable costs per customer per year to \$141.00.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Throughout the course of this study, all possible aspects and circumstances affecting the establishment of the diaper service were researched to the maximum extent possible. The case studies provided the basis from which the market analysis and promotional requirements were developed. Undoubtedly, the most substantial and encouraging finding indicated the existence of a viable market. This finding alone supports the conclusion that the venture is feasible from a marketing standpoint. The probable success of the business would ultimately depend on sound management, adequate and timely promotion, quality customer service, and appropriate financing.

With reasonable certainty, it can be concluded that the diaper service is a feasible venture with adequate growth potential within Great Falls and Cascade County. In the future, both Helena and Billings could provide locations for franchise operations.

Recommendations

Several lessons were learned from conducting the case studies of Universal and Rock-A-Dry diaper services. These lessons can be applied to the establishment of the proposed Great Falls diaper service.

When the Universal case study was conducted, the management was utilizing three days per week or 60 percent of each week to service only 50 Denver area customers. The time devoted to only 28 percent of the total customer base could have been better utilized to attract new Boulder area customers. This same mistake should not be repeated by the management of the proposed diaper service. A sound customer base must be developed locally before other areas are considered for expansion. The additional delivery costs associated with out-of-town customers could not be effectively absorbed by the new venture.

Noting that Universal experienced a stain removal problem for its diapers, the management of the proposed diaper service should become a member of the National Institute of Infant Services. This membership would grant the management access to a professional staff that is specifically trained to resolve problems of this type.

Accurate financial record maintenance is a must for the proposed diaper service. If the management is unable to prepare year-end financial statements, an accounting firm should be employed. Although receipts and vouchers were being retained by Universal, no financial statements were generated for control purposes. If audited, Universal could be in a precarious situation. The management of the proposed diaper service must always be in a position to justify and support its financial transactions.

The management of Rock-A-Dry has established an extensive program to mail promotional literature to prospective customers. The program is both time and cost consuming. It is recommended that the management of the proposed diaper service place this same type of literature, in the form of promotional packages, in hospitals and baby shops. This method

would be substantially less expensive and the package would be directly available to expectant mothers. During their stay at the hospital, mothers could review the package at their leisure. This new technique could be easily accomplished with minimum assistance from hospital administrators and shop owners. The promotional packages may even improve exposure through placement at more appropriate locations.

A contest, similar to that of Rock-A-Dry, offering one month's free diaper service should be developed. However, the new promotional packages would eliminate the need for follow-on mail contact with the entrants required by the Rock-A-Dry procedure. The end result would be both time and cost reductions when compared to the Rock-A-Dry method.

Since the management of the proposed diaper service would be self-employed, some form of retirement plan should be considered. Perhaps the most appropriate plan would be the Individual Retirement Account (IRA). Contributions to the account are considered as an adjustment to income and are not taxed until withdrawn, usually at retirement. The advantage of the IRA is that taxes are deferred until the funds are withdrawn upon retirement. For most people, their retirement age marginal tax bracket will be considerably lower than that of prior years. The associated decrease in tax liability is obvious.

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